

2. Analysis of a multiple break translocation stock produced by X-raying T5-7b

The stock homozygous for these translocations, when crossed with T5-7b, produced a (●)8 (ring of) 6 indicating they differ by two interchanges. When that same stock was crossed with standard normal, a (●)8 was produced involving chromosomes 1-5-6-7. The derived types of (●)4 and (●)6 from the latter cross (Coop Newsletter #20, p. 15, 1946) have been analyzed at pachytene and the available genetic data summarized. Cytological studies showed that the breakage positions in the most numerous type of derived (●)4, T1-5, were probably at 1S or L .6 and 5L.4. No linkage data were available for chromosome 1, but for chromosome 5 linkage data indicated the break was in the long arm. For the other type of derived (●)4, T6-7, the breakage points were at 6L-3 and 7S.3. At diakinesis in plants from the cross of plants homozygous for a derived (●)6 (T5-6-7) with plants homozygous for the parental interchange T5-7b there was only a (●)4 chromosomes attached to the nucleolus indicating these two lines differ by only one interchange. Conclusions as to the probable original breakage positions should be possible from this information. It should be possible then to plan further crosses to utilize the T1-5-6-7 stock in the production of larger rings.

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